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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,742	08/12/2002	Glen E. Roe	PD1301.01US	6605

30439 7590 04/05/2005

DVA / PIONEER DIGITAL TECHNOLOGIES  
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EXAMINER
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FLEARY, CAROLYN FATIMAH

ART UNIT	PAPER NUMBER
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2152

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/064,742

Applicant(s)

ROE ET AL.

Examiner

Carolyn F. Fleary

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION*****Drawings***

Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

The disclosure is objected to because of the following informalities: Title contains brackets "[ ]".

Appropriate correction is required.

***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

- Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claim 1-6,8-15,19-21,24,32-38,40-43,45-49,51-57,58-63, and 65-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yun (US 2001/0011375 ) in view of Kim et al. (US 6,473,788).**

In regards to claim 1:

Yun discloses disclosing computers (fig. 4-S1-Sn) sending request via a head end, which initially requests identification information from set-top boxes via a network ([0076] ll. 3-6). The head end utilizes the identification information to distinguish among set-top boxes and report diagnostic results to an appropriate manufacturer and subscriber manager [0076]. The head end, after the receipt of identification information, inputs a command (which includes the identification information) to communicate with and check the operation state of an STB via a network ([0043][0073] ll. 3-6,[0076]). The input command results in a query (fig. 11-Diag\_stat\_req, Diag\_data\_req) of internal operation states of a set-top box (STB). In response, the STB reports the operation state information on each circuit unit in the STB back to the head end ([0087]).

Yun does not disclose a graphical user interface (GUI) used to input identification information for the STB.

Kim et al. discloses a remote device connected to a network, which obtains remote servicing instructions over the Internet (abs 1-3). A technical support

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workstation (computer fig. 1-#3, #1) inputs an IP address (i.e. identification), associated with the remote device, via a web page. The web page then shows maintenance and diagnostic functions available to be executed by a remote device (col. 11 lines 8-10). The I P address is used to connect the workstation to the remote device and each workstation is equipped with a web browser capable of displaying a web page (i.e. GUI) to access a remote device.

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having a web page used to input identification information to access a remote device as taught by Kim et al. (col. 11 lines 8-10; 14-18; 55-67, col. 12 ll. 1-5) in order to service a device remotely, from a central location over a network such as the world wide web, and reduce the number of site visits required by discovering problems with the remote device in advance and allow better preparation of a service technician if a site visit is still deemed necessary (col. 1 ll. 41-56)

In regards to claim 33, Yun discloses :

- a unique identifier for a set-top box and establishes a connection across a network between said computer and said set-top box;
- one or more internal states of said set-top box that are queried from said computer to said set-top box across said network and received at said computer, in response.

Yun discloses subscriber manages (computers fig. 4-S1-Sn) sending request via a head end, which initially requests identification information from set-top boxes via a network ([0076] ll. 3-6). The head end utilizes the identification information to distinguish among set-top boxes and report diagnostic results to an appropriate manufacturer and subscriber manager [0076]. The head end, after the receipt of identification information, inputs a command (which includes the identification

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information) to communicate with and check the operation state of an STB via a network ([0043][0073] ll. 3-6). The input command results in a query (fig. 11-Diag\_stat\_req, Diag\_data\_req) of internal operation states of a set-top box (STB). In response, the STB reports the operation state information on each circuit unit in the STB back to the head end ([0087]).

Yun does not disclose an apparatus comprising:

- graphical user interface (GUI) on a computer;
- a unique identifier for a set-top box that is input into said GUI

Kim et al. discloses a remote device connected to a network, which obtains remote servicing instructions over the Internet (abs 1-3). A technical support workstation (apparatus fig. 1-#3, #1) inputs an IP address (i.e. identification), associated with the remote device, via a web page. The web page then shows maintenance and diagnostic functions available to be executed by a remote device (col. 11 lines 8-10). The IP address is used to connect the workstation to the remote device and each workstation is equipped with a web browser capable of displaying a web page (i.e. GUI) to access a remote device.

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having an apparatus with a web page used to input identification information to access a remote device as taught by Kim et al. (col. 11 lines 8-10; 14-18; 55-67, col. 12 ll. 1-5) in order to service a device remotely, from a central location over a network such as the world wide web, and reduce the number of site visits required by discovering problems with the remote device in advance which would allow better preparation of a service technician if a site visit is deemed necessary (col. 1 ll. 41-56)

In regards to claim 42, Yun discloses:

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- a unique identifier for a set-top box and establishes a connection across a network between said computer and said set-top box ([0043][0073] ll. 3-6 [0076]); Yun discloses disclosing computers (fig. 4-S1-Sn) sending request via a head end, which initially requests diagnostic information from set-top boxes via a POD Module ([0063][0073][0076] ll. 3-6, fig. 11. ).
- a script (i.e. request/command) that is generated at said computer and sent to an application server that is interposed between said computer and said set-top box ([0073] [0091] fig 11 -#1,#5,#10);
- one or more internal states of said set-top box that are queried when said script is executed on said application server (fig 11-#2, #6, #11)) and received (fig. 11-#4,8,13) at said computer.

Yun does not disclose apparatus comprising

- a graphical user interface (GUI) on a computer;
- a GUI for to allow a unique identifier for a set-top box to be inputted.

Kim et al. discloses a remote device connected to a network, which obtains remote servicing instructions over the Internet (abs 1-3). A technical support workstation (apparatus fig. 1-#3, #1) inputs an IP address (i.e. identification), associated with the remote device, via a web page. The web page then shows maintenance and diagnostic functions available to be executed by a remote device (col. 11 lines 8-10). The I P address is used to connect the workstation to the remote device and each workstation is equipped with a web browser capable of displaying a web page (i.e. GUI) to access a remote device.

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having a web page used to input identification information to access a remote device as taught by Kim et al. (col. 11 lines 8-10; 14-18; 55-67, col. 12 ll. 1-5) in order to service a device remotely, from a central

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location over a network such as the world wide web, and reduce the number of site visits required by discovering problems with the remote device in advance and allow better preparation of a service technician if a site visit is still deemed necessary (col. 1 ll. 41-56)

In regards to claim 44, Yun discloses a system for obtaining information from a set-top box comprising:

- identifier for said set-top box [0043][0073] ll. 3-6, [0076];
- means for using said unique identifier to establish a connection across a network between said computer and said set-top box;
- means for querying for one or more internal states of said set-top box (fig. 11-Diag\_stat\_req, Diag\_data\_req); and
- means for receiving said internal states at said computer, in response ([0087]).

Yun discloses subscriber managers (computers fig. 4-S1-Sn) sending request via a head end, which initially requests identification information from set-top boxes via a network ([0076] ll. 3-6). The head end utilizes the identification information to distinguish among set-top boxes and report diagnostic results to an appropriate manufacturer and subscriber manager [0076]. The head end, after the receipt of identification information, inputs a command (which includes the identification information) to communicate with and check the operation state of an STB via a network ([0043][0073] ll. 3-6,[0076]). The input command results in a query (fig. 11-Diag\_stat\_req, Diag\_data\_req) of internal operation states of a set-top box (STB). In response, the STB reports the operation state information on each circuit unit in the STB back to the head end ([0087]).

Yun does not disclose:



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- means for using a graphical user interface (GUI) on a computer to input a unique

Kim et al. discloses a remote device connected to a network, which obtains remote servicing instructions over the Internet (abs 1-3). A technical support workstation (computer fig. 1-#3, #1) inputs an IP address (i.e. identification), associated with the remote device, via a web page. The web page then shows maintenance and diagnostic functions available to be executed by a remote device (col. 11 lines 8-10). The I P address is used to connect the workstation to the remote device and each workstation is equipped with a web browser capable of displaying a web page (i.e. GUI) to access a remote device.

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having a web page used to input identification information to access a remote device as taught by Kim et al. (col. 11 lines 8-10; 14-18; 55-67, col. 12 ll. 1-5) in order to service a device remotely, from a central location over a network such as the world wide web, and reduce the number of site visits required by discovering problems with the remote device in advance and allow better preparation of a service technician if a site visit is still deemed necessary (col. 1 ll. 41-56)

In regards to claim 58, Yun discloses a computer program product comprising a computer useable medium having computer readable program code configured to cause a computer to obtain information from a set-top box comprising [0040]-[0044]:

- computer readable program code configured to cause a computer to use said unique identifier to establish a connection across a network between said computer and said set-top box; computer readable program code configured to cause a computer to query for one or more internal states of said set-top

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box; and computer readable program code configured to cause a computer to receive said internal states at said computer, in response.

Yun discloses subscriber managers (computers fig. 4-S1-Sn) sending request via a head end, which initially requests identification information from set-top boxes via a network ([0076] ll. 3-6). The head end utilizes the identification information to distinguish among set-top boxes and report diagnostic results to an appropriate manufacturer and subscriber manager [0076]. The head end, after the receipt of identification information, inputs a command (which includes the identification information) to communicate with and check the operation state of an STB via a network ([0043][0073] ll. 3-6,[0076]). The input command results in a query (fig. 11-Diag\_stat\_req, Diag\_data\_req) of internal operation states of a set-top box (STB). In response, the STB reports the operation state information on each circuit unit in the STB back to the head end ([0087]).

Yun does not disclose:

- computer readable program code configured to cause a computer to enable a graphical user interface (GUI) which receives a unique identifier for said set-top box;

Kim computer program product comprising a computer useable medium having computer readable program code configured to cause a computer to obtain information from a remote device via a network. Kim et al. discloses a remote device connected to a network, which obtains remote servicing instructions over the Internet (abs 1-3). A technical support workstation (computer fig. 1-#3, #1) inputs an IP address (i.e. identification), associated with the remote device, via a web page. The web page then shows maintenance and diagnostic functions available to be executed by a remote device (col. 11 lines 8-10). The I P address is used to connect

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the workstation to the remote device and each workstation is equipped with a web browser capable of displaying a web page (i.e. GUI) to access a remote device.

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having a web page used to input identification information to access a remote device as taught by Kim et al. (col. 11 lines 8-10; 14-18; 55-67, col. 12 ll. 1-5) in order to service a device remotely, from a central location over a network such as the world wide web, and reduce the number of site visits required by discovering problems with the remote device in advance and allow better preparation of a service technician if a site visit is still deemed necessary (col. 1 ll. 41-56).

In regards to claims 2, 34, 45, and 59, Yun discloses the wherein said internal states include a diagnostic state ([0073]).

In regards to claims 3,35,46 and 60 Yun discloses wherein said network comprises a first (Comprises fig. 4-#400B and 400A) and second network (fig. 4:#S1-Sn,Network) layer [0064].

In regards to claims 4, 36, 47, and 61, Yun discloses in fig. 4 wherein said first network layer as intranet. The first network layer as an intranet is shown by the composition of the connection between fig. #4 -400A (head end) and fig. 4-#400B (set-top box). This connection is indicative of a localized group of set-top boxes, which are connected to and serviced by a particular head end in a cable providers network. Only those subscribers connected to the cable providers network receive services.

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Kim et al. also discloses in fig 1 a first network layer as an intranet which is represent by fig. 1-#15 (LAN) which couples multiple devices (fig 1-#9, 16, 18) which can also be representative of Yun's set-top boxes. The LAN services a localized group of uses connected in the same or disparate locations all belonging to the same group (col. 3 ll. 44-51)

It would be obvious to one of ordinary skill in the art at the time of the invention to combine Yun with Kim et al. by having connection with multiple devices on the same LAN, in order to be able to service multiple devices (i.e. set-top boxes) on a network.

In regards to claims 5, 37, 48 and 62, Yun discloses wherein said intranet (Comprises fig. 4-#400B and 400A) includes a set-top box connected to one cable outlet ([0073]). In [0073] Yun discloses a connection of the set-top box to a cable head end, which indicates the existence of a cable outlet. Yun further discloses wherein one cable outlet is in turn connected to a head end fig. 4-400A (i.e. node). The head end further transmits the response to a subscriber manager (fig 4-#S1-Sn) via a network.

Yun does not disclose wherein said head end (i.e. node) is in turn connected to an application server.

Kim et al. teaches discloses in fig 1 a first network layer as an intranet which is represent by fig. 1-#15 (LAN) which couples multiple devices (fig 1-#9, 16, 18) which can also be representative of Yun's set-top boxes. Kim et al. teaches a technical support workstation (fig. 1-#1#3) that can display diagnostic information (col. 11 lines 8-10) for remote devices via a web page browser in HTML. Kim et al. discloses the applicant server in disclosing when responses from the remote devices are formatted by an HTTP server to provide the response to a technical support

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workstation in an HTML format displayable by the web page (col. 11. ll. 5-14; 30-38). Kim et al. further discloses the HTTP server enables technical support workstations to access devices using a web browser which supports WWW protocol.(col. 5 ll. 24-27).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having an HTTP server, as taught by Kim et al. in order to for format responses received from the head end of Yun into a format compatible for display within a web page in order allow a technician to remotely service a device (See Kim et al. col. 1 ll. 41-56, col.5 ll. 24-27, col. 11. ll. 5-14; 30-38).

In regards to claims 6,38, 49 and 63 Yun discloses a second network layer, which is represented in the connection between fig 4-network and fig. 4 S1-Sn. The second network communicates with a remote device via a first network represented by the connection between a head end (fig. 4-#400A) and a STB device (fig 4-#400B).

Yun does not disclose wherein the second network layer is an Internet.

Kim et al. discloses, in fig. 1, a plurality of second networks including world wide web (#6) and Technical Support LAN (#19) for commuting with remote devices on LAN (#19). Specifically the Internet is represented by World Wide Web (fig. 1-#6) a global network of networks that uses TCP/IP (col. 3 ll. 52-59).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having the second network as an internet as taught by Kim et al. in order for technical support workstations to connected with and service subscriber devices it supports located outside of its LAN (fig. 1-#19) and reduce the number of cite visits required (col. 1 ll. 41-54).

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In regards to claims 8, 40, 51 and 65, Yun in view of Kim et al. discloses wherein said GUI comprises a web page (See Kim et al. col. 7 ll. 36-39, col. 10 ll. 31-33).

In regards to claims 9, 41, 52 and 66 Yun discloses wherein said unique identifier comprises an a MAC address, or a serial number ([0076] ll. 3-6).

In regards to claim 10, Yun discloses the method of claim 1 wherein said step of querying further comprises:

- generating a script at said computer ([0091]);
- sending said script to an application server ( [0091-0092] ); and
- executing said script on said application server([0092].

In regards to claims 11 and 43, Yun discloses the retrieval of diagnostic data from a set-top (Yun fig. 11-#8, #13) and diagnostic data (i.e. internal states) and a POD Module ([0039] i.e. application server) located between set-top box and subscriber managers (fig. 4-S1-Sn)

Yun does not teach wherein:

- formatting said internal states into a web page at an application server
- sending said web page to a web browser on said computer; and
- displaying said web page on said web browser.

Kim et al. discloses wherein:

- formatting said internal states into a web page at an HTTP server(col. 11. ll. 5-14; 30-38)
- sending said web page to a web browser(col. 11. ll. 5-14; 30-38, col.5 ll. 24-27) on said computer; and

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- displaying said web page on said web browser(col.10 ll. 39-45, col. 11 ll. 55-67, col.12 ll. 1-5).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having formatting and displaying states into a web page on a web browser, as taught by Kim et al. in order to for format responses received from the head end of Yun into a format compatible for display within a web page in order allow a technician to remotely service a device (See Kim et al. col. 1 ll. 41-56, col.5 ll. 24-27, col. 11. ll. 5-14; 30-38).

In regards to claim 12, Yun discloses a subscriber manager uses received diagnostic information to determine any necessary steps needed to manage a set-top box.

[0073]

Yun does not disclose the method of claim 1 further comprising the determination on if the internal states can be used to maintain or repair the set-top box

Kim et al. teaches:

- performing a maintenance or a repair activity remotely, if said set-top box can be maintained or repaired remotely (col. 11 ll. 55-65); and
- dispatching a service technician, if said set-top box cannot be maintained or repaired remotely(col. 11 ll. 55-65).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by Kim et al. in order to perform a maintenance or repair activity remotely on a set-top box if it can be maintained or repaired remotely and dispatching a service technician if a set-top box cannot be maintained or repair remotely, as taught by Kim et al. in order to reduce the number of site visits required to be made by service technicians, and when a site visit is required, to

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provide the service technician with advanced information regarding any problems that might exists (col. 1 ll. 27-31, col. 11 ll. 55-65).

In regards to claims 13 and 56, Yun discloses a subscriber manager uses received diagnostic information to determine any necessary steps needed to manage a set-top box. [0073].

Yun does not disclose: dispatching a service technician, if said set-top box cannot be maintained or repaired remotely.

Kim et al. teaches:

- performing a maintenance or a repair activity remotely, if said set-top box can be maintained or repaired remotely (col. 11 ll. 55-65); and
- dispatching a service technician, if said set-top box cannot be maintained or repaired remotely(col. 11 ll. 55-65).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by performing a maintenance or repair activity remotely on a set-top box if it can be maintained or repaired remotely and dispatching a service technician if a set-top box cannot be maintained or repair remotely, as taught by Kim et al. in order to reduce the number of site visits required to be made by service technicians, and when a site visit is required, to provide the service technician with advanced information regarding any problems that might exists (col. 1 ll. 27-31, col. 11 ll. 55-65).

In regards to claim 14, Yun discloses the method of claim 2 wherein said diagnostic state comprises a system summary. Figure 6A-6C shows diagnostic state summary information from received a set-top box ([0079][0085][0086]).



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In regards to claim 15, 19-21 and 24 Yun discloses the method of claim 2 wherein said diagnostic state comprises:

- (Claim 15) an identity Fig 6B displays diagnostic data from a set-top box, which includes identify information: Manufacturer\_id, Brand\_id, Model\_id, Serial\_id, Host\_id, POD\_module\_id.
- (Claim 19) tuning information. Fig. 10 displays diagnostic data which includes tuning information (CableNIM tuning\_sub system, "tuning not working")
- (Claim 20) RF network information. Yun discloses a set-top box which includes a QAM demodulator for receiving and demodulating A/V broad case program tuned by the tuner (fig. 4-#42)
- (Claim 21) MPEG information. Yun discloses a set-top box which includes MPEG decoder for outputting video and audio signals (fig. 2-#46-1)
- (Claim 24) system information ([0093]. Yun discloses system state is sent to a remote source.

Yun discloses that the STB send operation state for each circuit [0008]. All of the above are analyzed when the system determines operation state for a set-top box. A diagnostic resource for checking the operation state of the set-top box is communicated to a remote source [0073][0076].

In regards to claim 53 Yun discloses the system of claim 44 wherein said means for querying further comprises:

- means for generating a script(i.e. request/command) at said computer;  
means for sending said script ([0073] [0091] fig 11 -#1,#5,#10) to an application server; and means for executing said script on said application server(fig 11-#2, #6, #11).

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In regards to claim 54, Yun discloses the retrieval of diagnostic data from a set-top (Yun fig. 11-#8, #13) and diagnostic data (i.e. internal states) and a POD Module ([0039] i.e. application server) located between set-top box and subscriber managers (fig. 4-S1-Sn)

Yun does not disclose wherein said means for receiving further comprises:

- means for formatting said internal states into a web page at an application server;
- means for sending said web page to a web browser on said computer; and means for displaying said web page on said web browser.

Kim et al. discloses wherein:

- means for formatting said internal states into a web page at an HTTP server(col. 11. ll. 5-14; 30-38)
- means for sending said web page to a web browser(col. 11. ll. 5-14; 30-38, col.5 ll. 24-27) on said computer; and
- means for displaying said web page on said web browser(col.10 ll. 39-45, col. 11 ll. 55-67, col.12 ll. 1-5).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having formatting and displaying states into a web page on a web browser, as taught by Kim et al. in order to format responses received from the head end of Yun into a format compatible for display within a web page in order allow a technician to remotely service a device (See Kim et al. col. 1 ll. 41-56, col.5 ll. 24-27, col. 11. ll. 5-14; 30-38,)

In regards to claim 55, Yun discloses a subscriber manager uses received diagnostic information to determine any necessary steps needed to manage a set-top box.

[0073]

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Yun does not disclose the method of claim 1 further comprising the determination on if the internal states can be used to maintain or repair the set-top box

Kim et al. teaches:

- performing a maintenance or a repair activity remotely, if said set-top box can be maintained or repaired remotely (col. 11 ll. 55-65); and
- dispatching a service technician, if said set-top box cannot be maintained or repaired remotely(col. 11 ll. 55-65).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by Kim et al. in order to perform a maintenance or repair activity remotely on a set-top box if it can be maintained or repaired remotely and dispatching a service technician if a set-top box cannot be maintained or repair remotely, as taught by Kim et al. in order to reduce the number of site visits required to be made by service technicians, and when a site visit is required, to provide the service technician with advanced information regarding any problems that might exists (col. 1 ll. 27-31, col. 11 ll. 55-65).

In regards to claim 32 and 57, Yun discloses querying a set-top box for information (fig. 11-Diag\_stat\_req, Diag\_data\_req);

Yun does not disclose wherein said step of querying comprises accessing a diagnostic selection area in said GUI.

Kim et al. wherein said step of querying comprises accessing a diagnostic selection area in said GUI (col.11 ll. 8-11, fig. 16-17).

One of ordinary skill in the art at the time of invention would have clearly recognized that it is quite advantageous to modify Yun in view of Grzeckowski by accessing diagnostic selection area in a GUI as taught by Kim et al. in order to

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permitting servicing and maintenance of devices to be performed remotely from a central location from the internet/world wide web and reduce the number of visits required by a technician (col.1. ll. 27-32, 40-54).

In regards to claim 7,39,50 and 64, Yun discloses a second network (See Yun fig. 4: #S1-Sn, Network) in communication with a first network(Connection of fig. 4-400A and fig. 4-#400B), wherein the second network can communication with a set-top box (fig. 4#400B) on the second network.

Yun does not explicit disclose wherein the second layer is an intranet.

Kim et al. discloses a second network as an intranet in fig. 1-#19 (LAN). The technical support workstations (fig. 1-#4 and fig. 1-#3) are coupled to the LAN to access the remote devices on a first network (fig. 1-#15) using a browser web page. The technical support work station include an input area for inputting an IP address of a that allows the technical support workstation to access any particular remote device on the first network (fig. 1-#15).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having an Intranet as a second layer, as taught by Kim et al. in order to to service a device remotely, from a central location over a network such as the world wide web, and reduce the number of site visits required by discovering problems with the remote device in advance and allow better preparation of a service technician if a site visit is still deemed necessary (col. 1 ll. 41-56)

In regards to claim 67, Yun discloses the computer program product of claim 58 wherein said computer readable program code configured to cause a computer to query further comprises:

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- computer readable program code configured to cause a computer to generate a script at said computer [0091];
- computer readable program code configured to cause a computer to send said script to an application server [0091-0092]; and
- computer readable program code configured to cause a computer to execute said script on said application server([0092].

In regards to claim 68 Yun discloses the computer program product of claim 58 wherein said computer readable program code configured to cause a computer to receive further comprises the retrieval of diagnostic data from a set-top (Yun fig. 11-#8, #13) and diagnostic data (i.e. internal states) and an POD Module ([0039] i.e. application server) located between set-top box and subscriber managers (fig. 4-S1-Sn)

Yun does not teach the computer program product of claim 58 wherein said computer readable program code configured to cause a computer to receive further comprises

- computer readable program code configured to cause a computer to format said internal states into a web page at an application server;
- computer readable program code configured to cause a computer to send said web page to a web browser on said computer; and
- computer readable program code configured to cause a computer to display said web page on said web browser.

Kim et al. discloses wherein:

- computer readable program code configured to cause a computer to format said internal states into a web page at an HTTP server(col. 11. ll. 5-14; 30-38)

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- computer readable program code configured to cause a computer to send said web page to a web browser(col. 11. ll. 5-14; 30-38, col.5 ll. 24-27) on said computer; and
- computer readable program code configured to cause a computer to display said web page on said web browser(col.10 ll. 39-45, col. 11 ll. 55-67, col.12 ll. 1-5).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by having formatting and displaying states into a web page on a web browser, as taught by Kim et al. in order to for format responses received from the head end of Yun into a format compatible for display within a web page in order allow a technician to remotely service a device (See Kim et al. col. 1 ll. 41-56, col.5 ll. 24-27, col. 11. ll. 5-14; 30-38).

In regards to claim 69, Yun discloses the computer program product of claim 58 comprising computer readable program code configured to have a subscriber manager uses received diagnostic information to determine any necessary steps needed to manage a set-top box. [0073]

Yun does not disclose he computer program product of claim 58 comprising computer readable program code configured to the determine if the internal states can be used to maintain or repair the set-top box

Kim et al. teaches:

- performing a maintenance or a repair activity remotely, if said set-top box can be maintained or repaired remotely (col. 11 ll. 55-65); and
- dispatching a service technician, if said set-top box cannot be maintained or repaired remotely(col. 11 ll. 55-65).

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It would be obvious to one of ordinary skill in the art at the time of the invention to modify Yun by Kim et al. in order to perform a maintenance or repair activity remotely on a set-top box if it can be maintained or repaired remotely and dispatching a service technician if a set-top box cannot be maintained or repair remotely, as taught by Kim et al. in order to reduce the number of site visits required to be made by service technicians, and when a site visit is required, to provide the service technician with advanced information regarding any problems that might exists (col. 1 ll. 27-31, col. 11 ll. 55-65).

**3. Claims 16,18,29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yun (US 2001/0011375 A1) over Kim et al. (US 6,473,788) further in view of Drake et al. (US 2002/0078441).**

In regards to claims 16, 18, and 31, Yun in view of Kim et al. discloses the internal states include a diagnostic state (See Yun [0073]).

Yun in view of Kim et al. does not disclose the method of claim 2 wherein diagnostic state comprises: (Claim 16) feature authorizations, (Claim 18) network configuration, (claim 29) Entitlement Management Messages, (claim 30) Passthru messages, (Claim 31) Last reset state information.

Drake et al teaches a set-box which responds to remote status queries ([0026]). A remote source communicates with the STB to gather configuration activity and state information ([0025][0029][0032][0036][0041]. Specifically Drake et al. discloses the method of claim 2 wherein said diagnostic state comprises:

- feature authorizations ([0041] ll. 1-16)
- network configuration (i.e. IP Address, URL, fig. 3, [0046])
- Entitlement management message status. Drake et al. teaches authorization information pertaining to subscriber access is verified (i.e. Responses from set-top boxes and subscriber records) to determine if a corresponding set-top box can receive distributed or requested content (i.e. security check status message [0059][0060][0062]).
- Passthru message (i.e. status message, power down, ping messages, notifications[0032][0048]).
- last reset state information (i.e. last resetting of timer [0052]).

One of ordinary skill in the art at the time of invention would have clearly recognized that it is quite advantageous to modify Yun in view of Kim et



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al. by having diagnostic state comprising additional information as taught by Drake et al. above in order to obtain audience data directly and automatically from software and set-top boxes, that allow viewers to receive various type of content, without extra monitoring devices or manual operations from subscribers or viewers (See Drake et al. [0002][0005][0020]).

**4. Claims 15, 17,22,23, 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yun (US 2001/0011375) over Kim et al. (US 6,473,788) further in view of Middeke et al. (US 6,445,907).**

In regards to claims 15, 17,22,23 25,26, and 28, Yun in view of Kim et al. discloses the internal states include a diagnostic state (See Yun [0073]).

Yun in view of Kim et al. does not disclose the method of claim 2 wherein diagnostic state comprises: (Claim 15) Identity, (Claim 17) a version, (Claim 22) hardware information, (claim 23) memory, (Claim 25) channel information, (claim 26) program guide events, (claim 27) broadcast file system information, and (claim 28) pay-per-view information.

Middeke et al. discloses the method of claim 2 as modified above wherein said diagnostic state comprises memory (claim 21.) Middeke et al. teaches a method and system for diagnosis of a satellite receiver. Where a satellite receiver is available as a set-top box (col. 1 ll. 27-31). Specifically Middeke et al. discloses the method of claim 2 wherein said diagnostic state (col. 3 ll. 35-45) comprises:

- Identity (col.4 ll. 3)
- Version (col. 3 ll. 59)
- hardware information(col. 3 ll. 60,61 col. 4 ll. 4-7)
- Memory (col. 4 ll. 5-7)
- channel information (col.3 ll. 50,55,63)

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- program guide events (col. 4 ll. 1, 8)
- broadcast file system information (col. 3 ll. 40-45 i.e. status information and operational information)
- pay-per-view information (col. 3 ll. 64-67)

One of ordinary skill in the art at the time of invention would have clearly recognized that it is quite advantageous to modify Yun in view of Kim et al. by having diagnostic state comprising additional information as taught by Middeke et al. above in order to permit more effective trouble-shooting by service technicians by analyzing diagnostic information received from a receiver and forgo the process of a lengthy process of walking end customers through a series of questions and/or steps in an attempt to resolve receiver problems (col.2 ll. 12-19).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

#### **Prior Art related to: Authentication, Authorization and Access to Information on a network**

- Akins, III; Glendon L. et al. (US 6526508) Source authentication of download information in a conditional access system

#### **Prior Art related to: Testing, Monitoring and Gathering Diagnostic data of Devices in a Network**

- Brodigan; Donald L. (US 6380971) VDSL video/data set top test equipment
- Dara-Abrams; Joseph et al. (US 6826512) Using local devices as diagnostic tools for consumer electronic devices

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- Grzeczkowski; Richard Stephen (US 6687486) Method and apparatus to configure, provision and control a set-top terminal
- Hendricks; John S. et al. (US 5600364) A Network controller for cable television delivery systems
- Parikh; Himanshu et al. (US 5243651) Diagnostic method and apparatus for a cable television interdiction system
- Ramberg; Jon R. et al. (US 6857013) Remote anomaly diagnosis and reconfiguration of an automatic data collection device platform over a telecommunications network
- Schultheiss; Christopher J. et al. (US 6678004) Methods and systems for providing information to a plurality of set-top boxes via a personal computer using set-top box identifiers
- Siegel; Robert P. et al. (US 6782345) Systems and methods for diagnosing electronic systems
- Krishnamurthy; Gopalan et al. (US 5642154) Cable maintenance system
- Iglehart; David et al. (US 5903626) Diagnostic device for troubleshooting remote digital feature phones

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn F. Fleary whose telephone number is (571) 572-7218. The examiner can normally be reached on 8:30 - 4:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Carolyn F Fleary  
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